



# Meeting Notes

Subject: FY 2016-17 Packages Constructability Review

Client: Iowa Department of Transportation

Meeting Location: Ames, IA Holiday Inn Conference Center

Project: I-29 Sioux City Segment 2 Final Design

Project No: IM-29-6(168)146-13-97

Date: Tuesday, September 22, 2015

Notes By: Aaron Keller

A Constructability Review meeting involving contractor and construction industry representatives, Iowa DOT staff, and the consultant design team regarding the I-29 Sioux City Project was held on Tuesday September 22, 2015 at the Ames, Iowa Holiday Inn Conference Center. The focus of the constructability review was the two roadway construction packages and seven bridges involved in the packages scheduled for construction during 2016 and 2017.

For simplicity in these notes, the roadway construction packages reviewed during the meeting will be referenced as follows:

- (46) Package – Northbound (NB) I-29 and bridge from Wesley Pkwy to Segment 3
- (49) Package – NB I-29 and bridges in Downtown from the Floyd River to Wesley Pkwy

A list of participants and contact information is at the end of the meeting notes.

## Topics Discussed

An overview of the (46) and (49) construction package limits, adjacent and concurrent construction packages, significant construction elements, such as bridges, permanent retaining walls, geotechnical recommendations, and special items including the Perry Creek Conduit crossing constraints and the Hamilton Drainage Outfall Improvement System were provided to participants by the District 3 Assistant Engineer and consultant team staff. An overview of the construction staging plan and key staging areas was also provided. It was noted that the two roadway packages and the seven bridge packages will be mandatory tied projects for the Letting scheduled in December 2015.

Additional details and commentary was provided regarding:

- MSE and pre-cast fascia panel walls
- Continuation of aesthetic theme from previous projects
- Expanded polystyrene (EPS) lightweight fill and ledge under fascia panel walls
- Details of panel footing and panel connection to the load distribution slab
- Reinforced soils slope (RSS) areas
- Drainage structures above and in the EPS
- Bridges that are “partial build” – remaining portions completed with future packages
- Sensitivity of NutraFlo property access
- Additional parcels available for staging areas
- EPS staging face covered with plastic
- Optional borrow site east of Sioux City

**The following are the specific questions, responses and comments noted during the constructability review.**

[Unless specified otherwise, Questions were asked by a Contractor and Answers were provided by the DOT/Design Team. All comment providers are indicated. "Q" = question asked; "A" = answer provided; "C" = comment offered]

Q – Are the Perry Creek abutments on piles?

A – Yes

Q – Are there details for how those abutments interact with the EPS?

A – Yes

Q – Can you talk about the staging of the bridges and the surrounding traffic?

A – [Walked through staging scrolls] Need to keep downtown access via Nebraska Ramp B during the 1<sup>st</sup> year. (46) package is split into substages in order to keep the ramps open.

Q – Where is the conflict or overlap between the 2 packages?

A – (46) Stage 3A and (49) Stage 3A. Specifically the mainline traffic configuration and the exit ramp to Hamilton. The (46) package needs to be ready to receive the traffic from Stage 3A of the (49) package.

Q – But this is a tied project?

A – Yes, originally split into 2 projects but now tied so 1 contractor will be controlling both projects.

Q – Back to the bridges. Most of the bridges are shown in '16. Is traffic on them in '17 or are we still working on them? Are ramp bridges needed to be complete with traffic on them before starting the other bridges?

A – Timing of the bridge construction will be dependent on the contractor schedule and the back end work in 2017. Want to give the contractor flexibility to perform Stage 2 in late '16 or early '17. Two of the three NB exit ramps need to be open at all times.

Q – What is the responsibility of the EPS fill designer? Provide layout only or design of distribution slab and connections?

A – The Contractor's EPS Fill Designer will be responsible for the block layout. Plans include details for horizontal and vertical intrusions (for piers, storm sewers, etc.) Contractor's EPS fill designer will be responsible for the block layout to accomplish the construction. There are separate bid items for the EPS fill and the other surrounding elements such as the load distribution slab and the connections to the walls. The EPS material is by specification. The envelope of the EPS is described in the plans.

Q – Do the EPS layouts need to be engineered and stamped? In the past this was required but for the most recent project it was not.

A – Will need additional detail from the contractor or EPS provider over what is shown in the plans. The approach is similar to the Salix interchange project, not 3<sup>rd</sup> Street. Check the plans and specs.

Q (DOT) – Do you want to review the intent of the contract period? Timeframes, incentives, etc.

A (DOT) – A brief scope was provided on the website with the plans.

This is a completion date contract with the date being the Wednesday before Thanksgiving of 2017. Liquidated damages will apply after that date. A dollar amount is not yet defined but is typically in the \$10k per day range.

There are a few independent sites that are defined: Nebraska Ramp B, Floyd/Dace intersection (June 17<sup>th</sup> 2016 with LDs), NutraFlo entrance (PCC) – mid June to mid August. Roughly \$3,000 per

day for NutraFlo damages. Contractor can work with NutraFlo to discuss other very short term impacts to their entrance.

In 2016, traffic cannot be shifted until middle of March but could begin other elements that do not affect traffic.

The Riverfront is important to the community. There will be sites on the trail closures affecting access to the Riverfront. Floyd Blvd trail connection duration is estimated at about 8 weeks, Pierce St trail connection is about 4 weeks, the trail on the (46) package will be somewhere in the 4-6 week range. In order to get the trail work done in this timeframe, it will likely require work on various crossings simultaneously, and not consecutively.

Wesley Ramp B will have a site; likely in the \$10,000 per day range for LDs

There are currently no incentives or bonuses for completing the project or individual sites early.

Single lane closures on I-29 will be allowed in the offpeak hours. See the plans for the allowed hours and days.

Q – Are you still looking at a December letting?

A – Yes. US20 is also planned for that letting which brings the total letting estimate over \$200M. There has been discussion regarding a potential special letting in order to separate these two large contracts. Contracts office indicated that US20 will not be delayed.

C (Contractor) – Getting materials for bridges, EPS, and other elements will require early lead time. Don't slide the letting too far.

C (DOT) – Will likely be a special letting. Might be one week after the normal December letting. Not likely to slide into the January letting. December letting is December 15<sup>th</sup> meaning the special letting could be December 22<sup>nd</sup>, prior to Christmas.

Q – Is there a concern that both projects are in the same letting?

A – Yes, there are individuals within the DOT who are concerned.

C (Contractor) – US20 and I-29 are different “work-type” projects (US20 is paving / I-29 is grading, bridges and paving) so having the projects in the same letting shouldn't be a problem. But breaking them into separate lettings is smart. You should get better bids.

Q (DOT) – Was it helpful to have these early plans on BidEx?

A (Contractor 1) – Part of our current challenge is getting everything built this year. Haven't had a lot of time to spend on this plan set. It would be great if we could have personal time with the DOT when we get the final set of plans.

C (DOT) – We don't have the silver bullet for you. Will try to have good questions and answers through BidEx.

C (Contractor 2) – A job like this might require more detailed Q&A than usual.

C (DOT) – Understood.

C (DOT) – Temporary Shoring – be sure to review the plans to have an understanding of which installations will need to remain at the end of these projects.

Q (Contractor 3) – Do you plan on having a pre-bid meeting?

A (DOT) – No, this meeting was intended to answer any questions the contractors might have.

Q – You mentioned the (258) project is concurrent with this project. Is there any interaction between these projects?

A – The physical work areas are separated by southbound I-29. The trails come close to each other and there is some utility work that overlaps work areas but the interaction should be very limited. The more likely impact is the construction traffic on and near Floyd Boulevard.

Q (DOT) – During the previous meeting (April 30, 2015) there were questions about the EPS and the twin 72" pipes (Hamilton Blvd drainage outfall). Are there any lingering questions about these elements?

C (DOT) – We added an optional bore bit in the SB gore area for the twin 72" pipes if the contractor finds value in using it.

C (DOT) – Each pipe is roughly 500' in length with approximately 400' needing to be trenchless. Previous discussions with boring contractors didn't have a concern with 400' length.

Q – Can you discuss the IFI areas? Particularly regarding IFI construction with off-peak lane closures.

A – The (46) package staged typical sections show the ability to close the NB outside lane in order to construct the IFIs.

Q – Why do I need the lane closure if you are showing such a large construction area?

A – We are showing the lane closure as an option during the shoulder strengthening. Also, the work area narrows as you get closer to the bridge

Q – Last meeting we talked about the 26' wide paving areas. Is the design set as shown in the plans or are you considering using Modified Subbase still?

A – We looked into this in great detail. There is only one spot that is very tight and there are different options for paving depending on how the contractor wants to work it. We are willing to work with the Contractor to determine the best approach. It may require hand pouring some areas or moving TBR or pouring over the TBR, especially during off-peak hours. It is tight, but the pavement section is shown accurately in the plans posted on BidEx. Moving to a Modified Subbase section completely changes the drainage.

Q – Will you allow Modified Subbase in these small isolated areas?

A – This was reviewed by the DOT. The concern with allowing the modified subbase was the impact of differential permeability. One impact was the need for additional subdrains. Also differential permeability would cause water to back up in the granular base and not drain correctly. The discussion was to either completely use modified subbase or granular subbase in order to have consistent permeability. The decision was to keep granular subbase in the design.

C (DOT) – One other side item. The Perry Creek spray-on membrane. We are required to have net-zero loading on the conduit but we still need to protect it from water. We have provided a special provision. At least three products meet the specifications. We have not used this solution before. This is a first for us.

C (DOT) – The area of the membrane is exclusive to the mainline bridges, not the Wesley Ramp B bridge or the area outside of the pavement/bridges.

Q – Regarding the restricted area at Perry Creek, are there restrictions if you remain on the I-29 pavement?

Q (DOT) – Legal load or over the legal load?

Q – If it is permitted on I-29 today, can I drive over the new bridge?

A – All loading allowances will go through the normal process. If it is permitted it will be allowed.

C (DOT) – I want to highlight the additional RCB and retaining wall on the (46) package near the outfall to the Missouri River. There are special surface treatments in this area and the channels will have special revetment. There is some specialty work in this area.

C (DOT) – Length of trail reconstruction is due to planning for future SB mainline construction.

C (DOT) – Contractor access to this area is provided via the park. There are safety fence detail sheets provided in the plans. The park is a sensitive area. The contractor should always be between the trail and the interstate. There will be no access to this area from the interstate.

C (DOT) – There are some special drainage details for the temporary drainage solutions. A lot of analysis went into this. If you ask “why”, it is likely due to the combination of temporary and interim conditions. Temporary is installed and removed by this contractor. Interim is installed by this contractor and removed by a future contractor.

Q – Is there a lot of incidental work that would need an incidental tab?

A – There is not a lot of incidental work in the roadway plans; most have bid items. The structural plans follow the traditional approach to incidental items.

C (DOT) – Bore Pits used for normal storm and utility trenchless installations have their own bid item. But bore pits for the trenchless twin 72” pipes are incidental to the twin 72s. These pits are much larger than the other pits on the project, and were made incidental to better accommodate different means and methods between Contractors for how to approach installing these large pipes trenchless.

C (DOT) – For the interim drainage details, a curb is provided to capture water, a sandbag curb is another item. There are areas of v-ditches and special backfill areas. The (46) package is a little tighter and also includes trench drains. See the plans for the different interim drainage conditions.

Q – Are there pay items for all of that?

A – Yes.

Q – Does all of that drain into new storm sewer structures or existing structures or somewhere else?

A – It will depend on the specific locations, but mostly into new or existing structures.

Q – Is there a concern with sediment getting into the IFI areas?

A – We don’t currently have a concern.

Q – On those tip-up panel walls, is there just a single connection on the top and a keyway at the bottom?

A – There are 2 or 3 connections at the load distribution slab. There are no connections in the middle of the panels.

C (DOT) – Our strategy in areas of drainage structures is having the inlets centered on a panel joint in order to be able to maintain the 2 to 3 connections per panel.

Q – Do you plan to fill the voids with flowable fill around the pipes in the EPS? Even manholes and drop structures?

A – Yes, horizontal and vertical intrusions will have fill.

C (DOT) - Small voids between the Fascia Wall Panels and the EPS are ok. We do not want backfill behind the Panels adding an outward load on the panel.

C (DOT) – Transition from EPS/Wall to MSE Wall [Depicted V.11 details] Beneath the EPS there is a wire mesh wall to handle any horizontal loads from the backfill (to prevent any outward load on the wall panel). Above the load distribution slab is a wire mesh wall in order to keep any loading off the panels to prevent cracking.

C (DOT) – Backfill at the bottom of the wall will be changed slightly due to constructability. The floodable fill material will be in a wedge shape, not stepped.

C (DOT) – The next plan set will have modifications. Make sure you download the latest set when it is available.

C (DOT) – There is a load transfer slab at the bottom of the EPS staging face in order to mitigate any differential settlement between the packages.

C (DOT) – The last 2 packages are (47) and (50). The (47) package is the follow up to (46) and the (50) package is the follow up to (49).

Q – What is the cost range for these 2 packages total?

A – The program amount is approximately \$67 million.

C (Contractor) – Do you mean \$77M?

C (DOT) – There is a separate project that will monitor the traffic queues on the side roads, particularly Wesley Pkwy. We want to get traffic to use the city side roads as much as possible, especially during peak time periods. We will monitor both the side road and mainline queues. Discussion will be had during the project regarding which queue gets mitigated if it gets bad enough.

C (DOT) – Similar to the (241) package, TBR is stored at the Riverside Dr. exit to be used for these projects.

Q (DOT) – What works best for the contractors to get early involvement? US20 and I-29 constructability meetings were a little different. Full plans with extra time to review or early preliminary plans? Which way should we go for (47) and (50)?

A – The earlier we receive the plans the better.

A – Ron can ask the AGC community

C (DOT) – The DOT is open to exploring different ways and approaches.

C (Contractor 1) – It is tough to spend time on a 500-600 page plan set marked preliminary.

C (Contractor 2) – Priority doesn't really come until you see the final plans and the bid date approaching

C (Contractor 3) – Reviewing final plans is when my investment becomes worth it.

Q – Will you highlight the changes between this plan set and the final plans?

A – That is not our intent.

C (Contractor) – That is the worry about studying the preliminary plans too closely. Don't want to remember the preliminary if something changed in the final.

C (DOT) – US20 was approached that way. Released final plans early (8 weeks) and all changes would be handled through addendums.

Q – Are milestone dates out with this project? Any specific time constraints?

A – The general principles were released as part of the zip files with the plans. It was a separate document but in the same zip file. Some of the interior dates are dependent on the aggressiveness of the contractor. If we are going to restrain you, we provide that in the notes.

Q – For clearances, are Section 404 permits and right of way all clear?

A – We are clear for all 404s. Section 408 for Perry Creek crossing is still in process but we are expecting comments soon. There is one parcel awaiting city council reading but sounds good. The Placor parcel is still being acquired but the owner doesn't have any objections. We expect all ROW to be clear before letting.

C (DOT) – The project will be advertised on November 17<sup>th</sup>. You will be able to ask questions through BidEx as of that date.

Q – With Christmas and New Years, can we get a signed contract ASAP?



A – Typically the DOT is not the critical path. The contractors have 30 days to secure their bonds. We will execute the contract as necessary.

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